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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,470

01/26/2007

Atsushi Otaki

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

JENNINGS, STEPHANIE M

ART UNIT

PAPER NUMBER

4135

NOTIFICATION DATE

DELIVERY MODE

12/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,470	<b>Applicant(s)</b> OTAKI ET AL.	
	<b>Examiner</b> STEPHANIE JENNINGS	<b>Art Unit</b> 4135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20070411, 20060420</u> .                                      | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 rejected on the ground of nonstatutory double patenting over claim 1 of U. S. Patent No. 7,406,852 B2 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter,

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as follows: a forging method using a holding die in a state in which the axial intermediate portion of a bar-shaped raw material is prevented from being enlarged in diameter while the diameters of the ends of the material are enlarged.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

4. Claim 6 is rejected on the ground of nonstatutory double patenting over claim 5 of U. S. Patent No. 7,406,852 B2 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a forging method with chamfered edges for the insertion passage side edge of a tip end of the guide

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1, 2, 12, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language does not specify what is entailed in the "buckle-preventing state."

7. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by the "buckle limit length" as used in the claim language.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-3, 5, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga et al. 6,427,326 A1 and Nielsen US Patent No. 5,626,522.

12. Soga teaches:

FIG. 16A

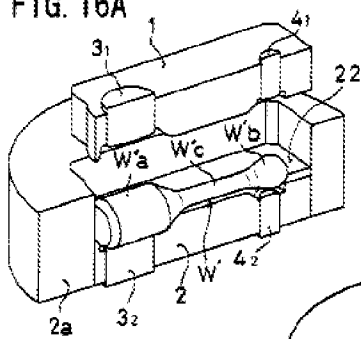


FIG. 16B

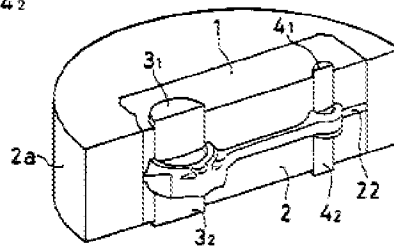


FIG. 16C

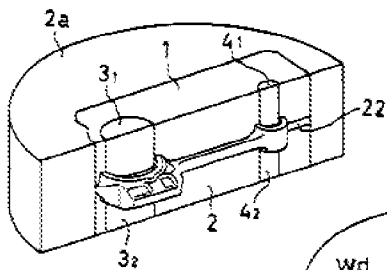
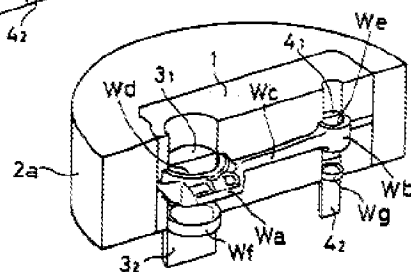


FIG. 16D



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13. Limitations from claim 1, in figures 16A-D above, a forging method for enlarging scheduled diameter-enlarging portions (Wa) located at axial end portions of a bar-shaped raw material (W) by upsetting, the forging method, comprising the steps of: holding an axial intermediate portion of the raw material with a holding die (5, 13, not shown) in a state in which the axial intermediate portion is prevented from being enlarged in diameter, disposing the axial end portions of the raw material in forming dented portions formed at axial end portions of the holding die (5, 13, not shown), and disposing the scheduled diameter-enlarging portions (Wa) in insertion passages formed in guides (2b, not shown); and then simultaneously pressing the scheduled diameter-enlarging portions (Wa) with punches (3<sub>1</sub>, 3<sub>2</sub>, 4<sub>1</sub>, 4<sub>2</sub>) to fill the material of the scheduled diameter-enlarging portions (Wa) in the forming dented portions (column 2, lines 22-63).

14. Limitations from claim 2, the forging method as recited in claim 1, wherein the insertion passage of each guide (2b) is configured to hold the scheduled diameter-enlarging portion (Wa) in a buckle preventing state (column 2, lines 22-63).

15. Limitations from claim 3, the forging method as recited in claim 1, wherein an initial clearance having a distance less than a buckle limit length at a cross-sectional area of an exposed portion of the material is set between each guide (2b) and the holding die (5, 13) before initiation of movement of each punch (column 2, lines 22-63).

16. Limitations from claim 5, the forging method as recited in claim 1, wherein each guide (2b) is provided with a pressing portion (Wa) to be fitted in the forming dented portion at a tip end portion of the guide (column 2, lines 56-63).

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17. Limitations from claim 12, a forging apparatus for enlarging scheduled diameter-enlarging portions (Wa) of axial end portions of a bar-shaped raw material (W) by upsetting, comprising: a holding die (5,13) for holding an axial intermediate portion of the raw material in a buckle preventing state; two forming dented portions in which the scheduled diameter-enlarging portion (Wa) is to be disposed, the forming dented portions being formed at axial end portions of the holding die; two guides (2b) each having an insertion passage in which the scheduled diameter-enlarging portion is inserted; and two punches (3<sub>1</sub>, 3<sub>2</sub>, 4<sub>1</sub>, 4<sub>2</sub>) for pressing the scheduled diameter-enlarging portions in axial direction thereof (column 2, lines 22-63).

18. Limitations from claim 14, the forging apparatus as recited in claim 12, wherein the insertion passage of each guide (2b) is configured to hold the scheduled diameter-enlarging portion in a buckle preventing state (column 2, lines 22-63).

19. Limitations from claim 15, the forging apparatus as recited in claim 12, wherein each guide (2b) is provided with a pressing portion (Wa) to be fitted in a forming dented portion at a tip end portion of the guide (column 2, lines 22-63).

20. While Soga does not exactly teach disposal of the axial end portions, it would have been obvious to one of ordinary skill in the art to dispose of the axial end portions because it is well-known in the art to dispose of excess material in the formation process.

21. Soga discloses the claimed invention except for buckle-preventing means or having the initial clearance a buckle-limit length between each guide. It would have been obvious matter of design to provide buckle-preventing means, since applicant has not disclosed that buckle-preventing means solves any stated problems or is for any particular purpose and it appears that



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the invention would perform equally well with without these means and that they are included only as a measure of good engineering safety design.

22. Wherein Nielsen further teaches:

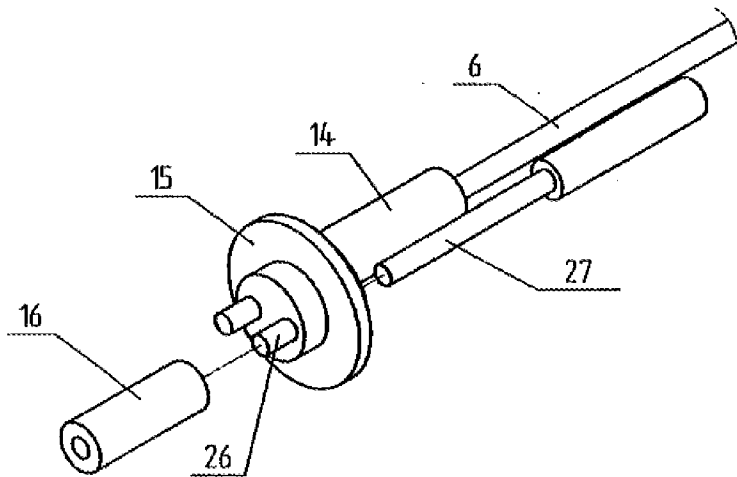


Fig. 3

23. Limitations from claim 1, in figure 3 above, moving each guide in a direction opposite to a moving direction of each punch (27), thereby enlarging each scheduled diameter-enlarging portion (26) in diameter (column 1, lines 61-65 and column 4, lines 12-22).

24. Limitations from claim 12, wherein each guide is capable of moving in a direction opposite to a moving direction of each punch (column 1, lines 61-65 and column 4, lines 12-22).

25. Limitations from claim 13, the forging apparatus as recited in claim 12, further comprising two guide moving devices (5, motor, not shown) each for moving the guide (25) in a

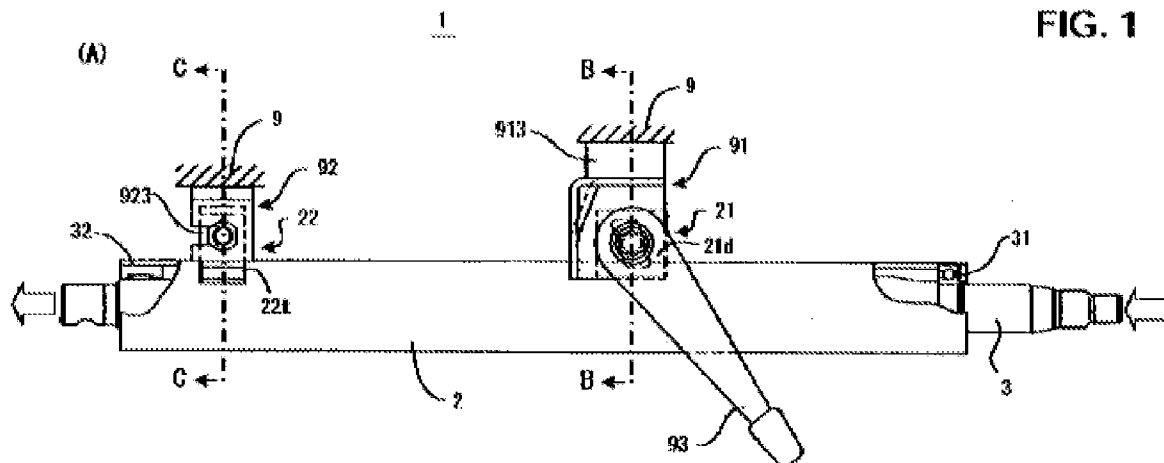
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direction opposite to a moving direction of the punch, each guide moving device (5) being connected to corresponding guide (25) (column 1, lines 61-65 and column 4, lines 12-22).

26. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga as applied to claim 1 above, and further in view of Sawada US Publication No. 2006/005395 A1.

27. Soga teaches a forging method and apparatus for making an elongated workpiece, but does not specifically teach a product of an automobile shaft, connecting rod or arm member. Sawada, however, does.

28. Sawada teaches:



29. Limitations from claim 8, an automobile arm member (3, figure 1) obtained by the forging method as recited in claim 1 (page 2, paragraph 14).

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30. Limitations from claim 9, an automobile shaft member (3, figure 1) obtained by the forging method as recited in claim 1 (page 2, paragraph 14).

31. Limitations from claim 10, an automobile connecting rod (3, figure 1) obtained by the forging method as recited in claim 1 (page 2, paragraph 14).

32. Sawada discloses the claimed invention except for an automobile arm member or connecting rod. It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce an automobile arm member by forging since the examiner takes Official Notice of the equivalents of arm member, connecting rod, and shaft member for their use in the metal deforming and manufacturing art and the selection of any of these known equivalents to a shaft member would be within the level of ordinary skill in the art.

33. A citation of the relevant section of the MPEP, §2144.06 follows: In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. However, an applicant's expressed recognition of an art-recognized or obvious equivalent may be used to refute an argument that such equivalency does not exist.); *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (The mere fact that phthalocyanine and selenium function as equivalent photoconductors in the claimed environment was not sufficient to establish that one would have been obvious over the other. However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view,

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presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor.” 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

34. It would have been obvious at the time of invention to one of ordinary skill in the art to combine Sawada’s invention with Soga’s invention because an automobile arm shaft can be made into an identical cylindrical shape such as the product from Soga's forging method.

35. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soga as applied to claim 1 above, and further in view of Wilson et al. 2004/0046142 A1.

36. Soga teaches a forging method and apparatus for making an elongated workpiece, but does not specifically teach a product of a two-headed piston. Wilson, however, does.

37. Wilson teaches:

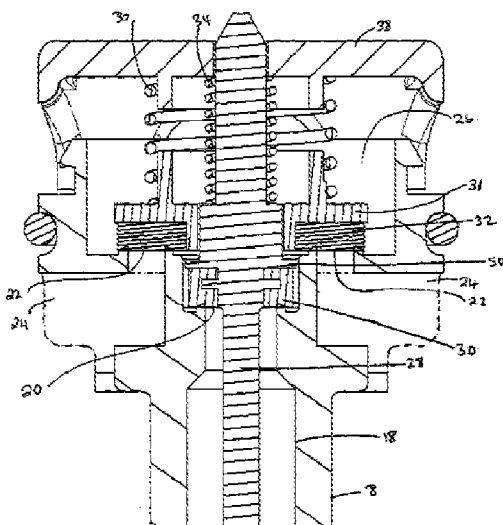


Fig 2

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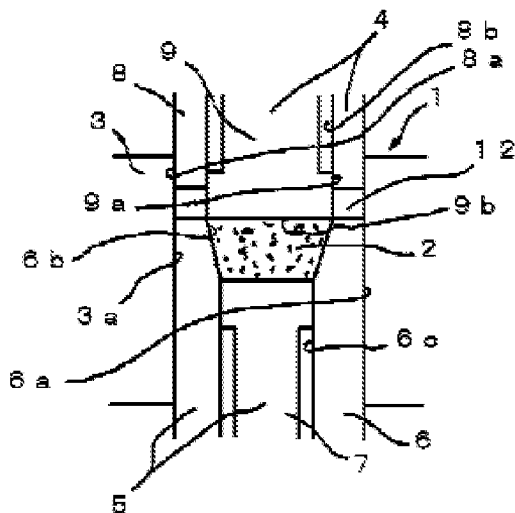
38. Limitations from claim 11, a two-headed piston (30, 28, 31, 32, 28, 50, figure 2 above) for compressors obtained by the forging method as recited in claim 1 (page 3, paragraph 51).

39. It would have been obvious at the time of invention to one of ordinary skill in the art to combine Sawada's invention with Soga's invention because a two-headed piston can be made into an identical cylindrical shape such as the product from Soga's forging method.

40. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soga as applied to claims 1 and 3 above, and further in view of Japanese Patent Publication 2000144211 A.

41. Soga teaches a forging method and apparatus, but does not teach this method and apparatus with a time-lag between the initiation of movement of each punch and initiation of movement of each guide. However, Japanese Patent Publication 2000144211 A does.

42. Japanese Patent Publication 2000144211 A teaches:



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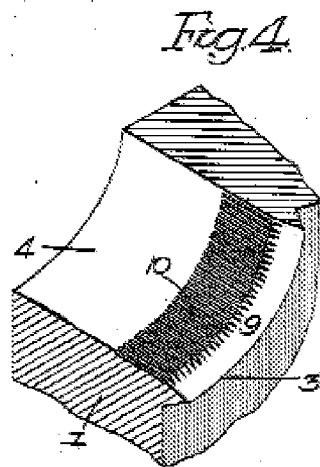
43. Limitations from claim 4, the forging method as recited in claim 3, wherein a time-lag is set between initiation of movement of each punch (7, 8, 9) and initiation of movement of each guide (12) (abstract, solution).

44. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the invention of Japanese Patent Publication 2000144211 A with Soga's invention because providing a pause between movement of the guides and punches reduces the amount of wear on the apparatus due to less frequent operation of the punches and guides.

45. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga as applied to claims 1 and 12 above, and further in view of Bird et al. US Patent No. 1,434,190.

46. Soga does not teach a chamfered edge for the insertion passage, but Bird does.

47. Bird teaches:



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48. Limitations from claim 6, the forging method as recited in claim 1, wherein an edge portion of a raw material fitting aperture of the holding die for fitting the axial intermediate portion of the raw material are chamfered (3) (column 1, lines 35-45).

49. Limitations from claim 16, the forging apparatus as recited in claim 12, wherein an edge portion of a raw material fitting aperture of the holding die for fitting the axial intermediate portion are chamfered (3) (column 1, lines 35-45).

50. The examiner notes that the applicant has drafted claims 6 and 16 with the use of “and/or.” The examiner is tasked with reading the claims broadly and by reading the disjunctive connector, only one of the limitations in the disjunctive connector need to be met in order to reject the claim.

51. Examiner must give claims their broadest reasonable interpretation, MPEP §2111, “During patent examination, the pending claims must be ‘given the broadest reasonable interpretation consistent with the specification.’ Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified, *In re Pratter*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969), *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).” Also see *In re Zletz*, 13 USPQ 2d. 1320 (Fed. Cir. 1989).

52. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bird's invention with Soga's invention because a chamfered or beveled edge provides greater flexibility for the interchangeability of parts in the apparatus.

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***Conclusion***

53. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE JENNINGS whose telephone number is (571)270-7392. The examiner can normally be reached on M-F, 7:30 am-5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William M. Brewster can be reached on (571)272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./

Examiner, Art Unit 4135

December 10, 2008

/William M. Brewster/

Supervisory Patent Examiner, Art Unit 4135